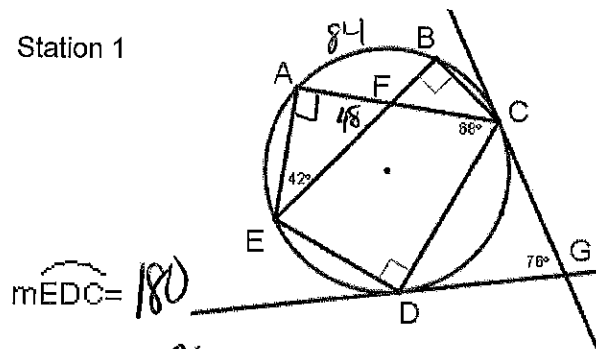


Station 1

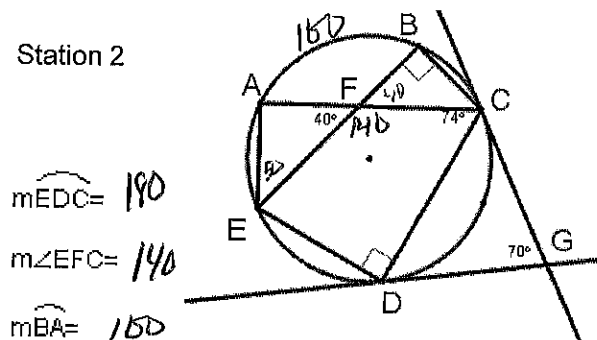


$$m\widehat{EDC} = 180$$

$$m\angle EAC = 90$$

$$m\angle BCF = 42$$

Station 2



$$m\widehat{EDC} = 180$$

$$m\angle EFC = 140$$

$$m\widehat{BA} = 160$$

$$m\angle BCF = 50$$

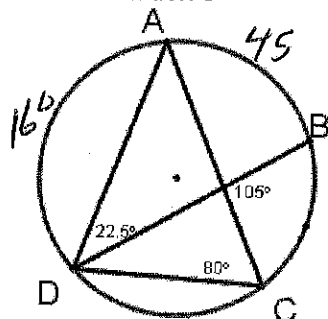
$$140$$

$$m\widehat{DA} = 160$$

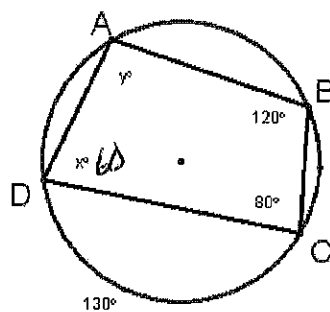
$$m\widehat{AB} = 45$$

$$m\widehat{BC} = 50$$

Station 3



Station 4



$$x = 60$$

$$y = 120$$

$$m\widehat{ADC} = 240$$

$$m\widehat{AD} = 110$$

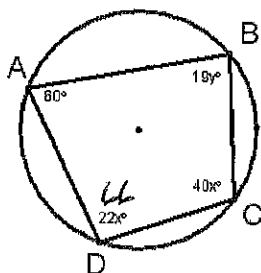
$$m\widehat{BC} = 70$$

$$105 = \frac{1}{2}(160 + x)$$

$$210 = 160 + x$$

$$\begin{array}{r} 210 \\ - 160 \\ \hline 50 = x \end{array}$$

Station 5

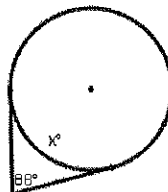


$$\begin{aligned} x &= 3 \\ y &= 6 \\ m\angle B &= 114 \\ m\angle C &= 120 \\ m\angle D &= 66 \end{aligned}$$

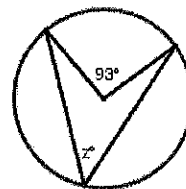
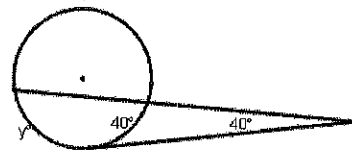
$$\begin{aligned} 40x &= 120 \\ x &= 3 \end{aligned}$$

$$\begin{aligned} 19y + 66 &= 180 \\ 19y &= 114 \\ y &= 6 \end{aligned}$$

Station 6



$$\begin{aligned} x &= 92 \\ y &= 120 \\ z &= 46.5 \end{aligned}$$



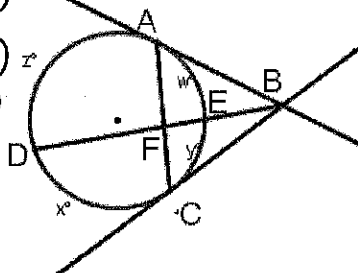
$$40 = \frac{1}{2}(y - 40)$$

80

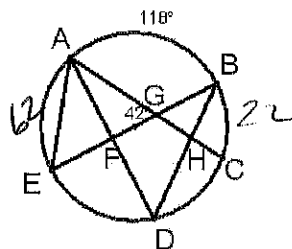
Express answers in terms of z, y, z, and w.

Station 7

$$\begin{aligned} m\angle ABD &= \frac{1}{2}(z - w) \\ m\angle CFD &= \frac{1}{2}(x + w) \\ m\angle EFC &= \frac{1}{2}(y + z) \\ m\angle CBD &= \frac{1}{2}(x - y) \end{aligned}$$



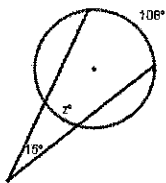
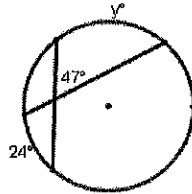
Station 8



$$\begin{aligned} m\widehat{AE} &= 62 \\ m\widehat{BC} &= 22 \\ m\widehat{EC} &= 158 \\ m\angle D &= 59 \\ m\angle E &= 59 \end{aligned}$$

$$\begin{aligned} 42 &= \frac{1}{2}(62 + 22) \\ 84 &= 62 \\ -62 \\ 22 &= m\widehat{BC} \end{aligned}$$

Station 9



$$x = 245$$

$$y = 70$$

$$z = 78$$

$$47 = \frac{1}{2}(24 + y)$$

$$15 = \frac{1}{2}(108 - z)$$

$$30 = 108 - z$$

$$-78 = -z$$